Remarks

Proposed drawings that overcome the objections in Office Action are submitted herewith.

Claim Rejections 35 USC 112

The actions, equipments and techniques required to match the frames are disclosed in this specification.

The data format according to a fieldbus protocol is well defined and known to a person skilled in the art. Such a format comprises a frame type field, a frame length field, a header check field, the data field proper and the data check field.

Furthermore, the matching function is to match the data link layer to the standardized medium-independent interface 75 as seen in Figure 2 and described on page 5, line 14 to page 6, line 3 of the specification.

Therefore, the matching layer 71 serves to embed data coming from that data link layer into a frame wherein the frame is adapted to be accepted by the standardized medium-independent interface 65. The frame format of the standardized medium-independent interface that is mentioned on page 3, line 7 is also known to a person skilled in the art. The frame format of the medium-independent interface consists of a preamble, a start limiter field, a frame type field, a frame length field, a header check field, the data field proper, a data check field and an end limiter field.

It is important to note the frame type field, a frame length, the field, a header check field, the data field proper and the data check field as mentioned on page 5, lines 15 to 16 of the description correspond to the fieldbus protocol data received from data link layer. Therefore, the matching layer functions to add the preamble, the data limiter

field and the end limiter field to these fieldbus data in order to build up a frame in compliance with the standard of the medium-independent interface. In other words, the fieldbus data are embedded into a frame format of the medium-independent interface. The output of the matching layer is then passed on to the medium-independent interface and the underlying physical layers and transmitted by means of the transmissions medium.

New independent claims 1 and 9 have been revised in order to overcome the examiners objections under 35 USC 112.

In particular we incorporated the feature of former claim 2 into independent claims 1 and 9. Therefore, claim 2 as originally filed is cancelled.

The standardized medium-independent interface is also described on page 3, line 7 of the description.

Further amendments of claims 1 and 9 are based on the description, see page 5, line 14 to page 6, line 3 in connection with Figure 2.

Discussion of the present invention with respect to the amended claims.

The major object of the present invention is to provide means which allow to directly connect a fieldbus component to a high speed data transmission medium, in particular to fast Ethernet, i.e. without using a fieldbus as a transmission medium. This concept is depicted in Figures 1 and 2 and described in original claim 9 which sets forth:

"A process for transmission of data over a high speed data transmission medium to which several fieldbus components are coupled...."

In order to solve this problem a fieldbus component is realized to be connected to a high speed data transmission medium which is not a fieldbus. The new designed

fieldbus component thus comprises a data link layer, which operates with a fieldbus protocol, a physical layer, which can be advantageously a standard physical layer, constituted for a high speed data transmission (see page 3, lines 1-5 of the description). Furthermore, the fieldbus component comprises a standardized medium-independent interface and a matching layer for matching data coming from the data link layer to a data format accepted by the standardized medium-independent interface.

None of the cited documents, in particular neither Eryurek nor McCool teaches a fieldbus component adapted to be connected to a transmission medium which is not a fieldbus.

Claim Rejections 35 USC 103(a)

Claims 1-14 stand rejected as being unpatentable over McCool (100 BASE-T: An Overview) in view of Eryurek.

Valid rejection under 35 USC 103(a) requires evidence of a suggestion or motivation for one skilled in the art to combine prior art references to produce the claimed invention. US Court of Appeals for the Federal Circuit (*Ecolochem inc. v Southern California Edison Co., Fed. Cir.,* No. 99/1043, 9/7/00).

The best defense against hindsight-based obviousness analysis is the rigorous application of the requirement for showing a teaching or motivation to combine the prior art references, according to the court.

Neither McCool nor Eryurek motivate or suggest to one skilled in the art to combine these references to produce Applicant's claimed invention.

Recently, in In Re Sang-Su Lee (00-1158) the Court of Appeals for the Federal Circuit rendered a decision confirming the above principles. The court analyzed 35 USC

103 requirements starting from the Administrative Procedure Act and held (citations omitted):

> "Tribunals of the PTO are governed by the Administrative Procedure Act, and their rulings receive the same judicial deference as do tribunals of other administrative agencies.
>
> "The Administrative Procedure Act, which governs the proceedings of administrative agencies and related judicial review, establishes a scheme of "reasoned decision making." Not only must an agency's decreed result be within the scope of its lawful authority, but the process by which it reaches that result must be logical and rational.
>
> "As applied to the determination of patentability vel non when the issue is obviousness, it is fundamental that rejections under 35 USC §103 must be based on evidence comprehended by the language of that section. (Emphasis added). When patentability turns on the question of obviousness, the search for and analysis of the prior art includes evidence relevant to the finding of whether there is a teaching, motivation, or suggestion to select and combine the references relied on as evidence of obviousness. (Emphasis added)
>
> "The factual inquiry whether to combine references must be thorough and searching. It must be based on objective evidence of record. This precedent has been reinforced in myriad decisions, and cannot be dispensed with. Our case law makes clear that the best defense against the subtle but powerful attraction of a hindsight-based obviousness analysis is rigorous application of the requirement for a showing of the teaching or motivation to combine prior art references. There must be some motivation,

suggestion or teaching of the desirability of making the specific combination that was made by the Applicant. Teachings of references can be combined only if there is some suggestion or incentive to do so."

As stated above, **neither McCool nor Eryurek motivate or suggest to a person skilled in the art to combine these references to duplicate the claims of the present invention.**

A) McCool

The problem discussed by McCool is the evolution of Ethernet i.e. the change from the 10BASE Ethernet (10Mbit/s) to the 100BASE Ethernet (100Mb/s) (p. 342-343). In order to allow devices adapted to 10BASE Ethernet to be connected to 100BASE Ethernet a reconciliation layer has been introduced to adapt the MAC layer using interface specifications with respect to 10BASE Ethernet to media independent interface defined with respect to 100BASE Ethernet.

On page 344, left column, 3rd paragraph is stated:

"The reconciliation sublayer's sole function is to translate the interface specification of the existing MAC to the newly defined media independent interface (MII)."

It should be noted, that the matching layer according to the invention does not translate interface specifications as disclosed by McCool but matches a data format according to a standardized field protocol to a data format according to a standardized media independent interface.

B) Eryurek

The patent of Eryurek discloses a device 32 which is connected to a process

control loop 36 which can be a process control loop according to a fieldbus control (column 3, lines 42 to 47) wherein the process control loop is connected via a process communicator 34 to a communication link 40, such as a internet connection (column 3, line 19).

The examiner asserts that the fieldbus protocol can be matched with the internet communication circuitry to be transmitted over the physical layer.

A first relevant difference between Eryurek and the present invention is that the internet communication circuitry as a matching device is arranged in the process communicator 34 (see Figure 8) but not in the fieldbus component as required by the present invention.

Furthermore, Eryurek clearly shows that in contrast to the present invention device 32, which corresponds to the fieldbus component according to claims 1 and 9, is not directly connected to the communication link 40. Instead, device 32 is connected over the process control loop and the process communicator 34 to the communication link 40.

Therefore the process communicator 34 and the internet communication circuitry 120 according to Figure 8 function as a bridge or a gateway for connecting two different transmission mediums, namely the internet and for example a fieldbus. As best seen in Figure 1 first devices, such as device 32 are connected to the first medium 36 and second devices, such as computer 38 are connected to the second medium 40. Bridges as the process communicator 34 and the internet communication circuitry 120 are well known in the prior art.

However, Eryurek does not give any hints or suggestions to reconstruct device 32 such that it can be directly coupled to the internet 40.

Therefore, McCool and Eryurek cannot be combined at all.

None of the documents are able to destroy patentability of new claims 1 and 9.

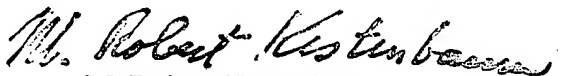
Moreover, McCool and Eryurek are not prior art documents. The present application has claimed two priorities, i.e. June 12 and November 6, 1998.

However, McCool (100BASE-T: An Overview) does not carry any publication date. Although Eryurek is based on a provision application filed on October 13, 1997, it has been published after these priority dates and Eryurek's US Patent date, i.e. April 9, 2002.

Wherefore consideration and allowance of the claims is respectfully requested.

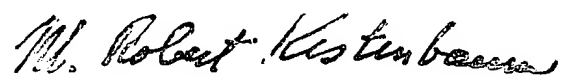
A two-month extension of time in which to respond to the outstanding Office Action is hereby requested. Credit Card Payment Form PTO-2038 in enclosed to cover the prescribed Large Entity two-month extension fee of $410.00. Please charge any additional fees or credit any overpayments to Deposit Account 11-0665. A duplicate of this page is enclosed for this purpose.

Respectfully submitted,



M. Robert Kestenbaum
Reg. No. 20,430
11011 Bermuda Dunes NE
Albuquerque, New Mexico 87111
Phone (505) 323-0771
Fax (505) 323-0865

I hereby certify this correspondence is being deposited with the US Postal Service First Class Mail in an envelope with sufficient postage to PO Box 1450, Commissioner for Patents, Alexandria, VA 22313-1450 on August 18, 2003.



M. Robert Kestenbaum